Guest Editorial

Collaborative Research: A Sentinel Practice System

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Family physicians have come to recognize that many factors complicate the process of acquiring new information in a scientifically valid and reliable way. Lack of research monies is one of these factors. National Institutes of Health funds are packaged in a somewhat archaic disease oriented manner, which gives some credence to Donald Schon's description of the United States government agencies as being "a series of monuments to past problems."[1]

Further, at the individual practice level, the infrequency of presentation of certain conditions or complexes, the special interest of the physician, and the mobility of both patients and physicians allow only limited epidemiological generalization to the greater community. If family medicine is to find its proper place within the hierarchy of professional expertise, it must provide unique information to increase the total fund of medical knowledge. This information can come only from its own special practice environment.

The federal government has accepted responsibility for information gathering on morbidity, but its efforts have been patchy at best and show little evidence of a cohesive planned approach. Inevitably, because of fiscal imperatives much of this data gathering in both government and the private sector has been directed toward the inpatient element of hospital care. Excellent national sample surveys at the community level, such as the Health Interview Survey (HIS),[2] the Health and Nutrition Examination Survey (HANES),[3] and the National Ambulatory Medical Care Survey (NAMCS),[4] have shown the size of the primary care service demand without providing the data necessary for surveillance and monitoring of populations over time. Such data are an absolute requirement if the health status and the incidence and prevalence of disease in selected populations are to be studied. This is the essence of research in the family practice environment, and this is where family medicine will make its unique contribution to medical knowledge.

How are we doing in such research? It helps to have a point of focus, an occurrence that answers, but at the same time illustrates and crystallizes, the question just posed. Such a focus is the recent announcement of funding support to the North American Primary Care Research Group from the Rockefeller Foundation for the further development of a system of sentinel practices for North America. Dr. Larry Green of the Department of Family Medicine of the University of Colorado at Denver is the principal investigator for this project and is the chairman of the steering committee that has been appointed to supervise the development.

In 1972, Baldwin of Oxford University[5] focused attention upon profound changes in the nature of medicine, including (1) the rising importance of chronic disease, (2) the recognition that health care is economically insatiable, (3) the movement toward participatory management of health services, and (4) the acceptance of the importance of the social context of illness. Such changes generate needs for systematic information about health services and the populations served. Baldwin concluded that existing information systems are inadequate and that community health information systems are needed to function as a warning system and as an epidemiological laboratory capable of studying health and disease in defined populations.

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In October 1978, representing the North American Primary Care Research Group (NAPCRG) and the Society of Teachers of Family Medicine (STFM), Wood presented evidence to the National Conference on Health Research Principles held at National Institutes of Health, Bethesda, Maryland, supporting the thesis that "a strategy must be developed to produce population-based morbidity data from the national scene. New methods such as the use of the "Sentinel Practice System" need to be considered."[6]

In the spring of 1979, Farley proposed to NAPCRG the creation of a sentinel practice system in the United States and Canada. A network of primary care practices stretching across the continent was envisioned. This network could keep an eye on a sample of North America's population by recording morbidity and health service patterns. It could also provide a ready laboratory for the study of selected problems not amenable to study in hospitals, institutes, and other traditional research arenas.

A steering committee, including representatives from private practice and academic medicine in both the United States and Canada, was recruited to further pursue the sentinel practice system. A vigorous transcontinental discussion ensued, and a search for worldwide experience was successful. The sentinel stations of the Netherlands and the Epidemic Observation Unit of the Royal College of General Practitioners emerged as the existing systems most like Farley's proposed system.

At subsequent meetings the membership of NAPCRG endorsed the sentinel project, declaring it important and achievable. A concept paper was drafted that listed seven objectives for the project:

1. Enlist and organize into a network a group of primary care practices serving an active population comprising 1 percent of the population of Canada and the United States
2. Maintain the system and retain these practices
3. Collect and organize a minimum data set about these practices' patients
4. Select primary care problems of importance to patients, providers, planners, and payors; encourage investigators to view the data set as a facilitating tool
5. Report quarterly prevalence of primary care problems within this system, especially chronic illnesses, psychosocial problems, and health promotion efforts
6. Develop person oriented data sets describing the populations under care in these practices
7. Document the degree of representativeness of the patient population receiving care in the sentinel practice as to the entire population

A minimum data set was proposed for continuous reporting, and standards were established for selection as a sentinel practice.

Subcommittees composed of NAPCRG members continue to wrestle with confidentiality and privacy issues, data reliability and accuracy problems, denominator problems, practice recruitment, and the development of a protocol for a prospective collaborative study about headache.

Many countries have developed systems of primary care practice morbidity recording that undertake surveillance responsibility for their respective societies. Notably, Holland, Great Britain, Australia, and Canada have systems or partial systems ongoing. In the majority of cases, the effort has been limited to the surveillance of one disease, for example, influenza; but Holland has a 12-year-old system based on 61 recording family physicians, permanently supported by the state government, which fulfills both a morbidity surveillance and an epidemiological function. It recognized that the incidence of myocardial infarction is highest in the eastern provinces and that 23 percent of suspected MI victims are cared for at home.[7]

The Epidemic Observation Unit of the Royal College of General Practitioners of Great Britain (RCGP) has developed a network of sentinel practices which makes a regular record of a selected number of infective and noninfective conditions seen in the community. This network maintains a constant surveillance of the health of approximately 228,000 people, and results are published regularly in the form of continuous morbidity observation reports.[8] These reports have pointed out the lack of relationship between the incidence of chicken pox and the incidence of herpes zoster, and have detected a declining incidence of rheumatoid arthritis over a three-and-a-half-year period.

Canada has used its network as a surveillance system for influenza, and Australia, with private funding, has used it to monitor the prescription of drugs in primary care practices.

Different questions will be addressed in the United States. As a mobile society, we need to look at the geographic differences in primary care practices, to involve established community based nonteaching practices in recording data, and to follow individual patients and families with special risks over time.

The natural history of chronic and degenerative disease in both young and old, as well as symptoms and costs and charges for services provided, need to be monitored in community settings. We also need to monitor the outcomes of preventive and promotive services to patients and families at special risk and compare by problem the hospital use by primary care physicians with the published data on hospital use by other specialists.

The requirements for success in this endeavor are demanding. The NAPCRG Steering Committee has established five task forces that have worked for two years to reach the present stage of development. An executive secretary has now been appointed and a planning committee established. There is still a great need for involvement of practicing physicians, but for those who cannot be involved, there must be enthusiastic support for this endeavor, which may be crucial to the ultimate achievement of academic maturity for the discipline of family medicine.

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